

**I CLAIM AS MY INVENTION:**

1. An apparatus for determining a recruitable volume in a lung comprising:

a control system;

a pneumatic unit connectable to said control system and adapted to interact with a respirating subject to supply a breathing gas flow to the subject;

a measurement system connectable to said control system and adapted to interact with the subject to measure volume and pressure associated with respiration; and

said control system, at a first point in time, regulating the pneumatic unit to generate a first test breath having predetermined parameters with respect to at least one of flow and pressure of the breathing gas flow, registering volume and pressure in the lung during the first test breath, measured by the measurement system, at a second point in time, regulating the pneumatic unit to generate a second test breath identical to the first test breath, registering volume and pressure in the lung during the second test breath, measured by the measurement system, comparing the registered volume and pressure for each of the first test breath and the second test breath, and determining a recruitable volume based on the comparison.

2. An apparatus according to claim 1 wherein the control system at a  $n^{\text{th}}$  point in time, regulates the pneumatic unit to generate an  $n^{\text{th}}$  test breath identical to the first test breath,  $n$  being an integer equal to or greater than 3, registers volume and pressure in the lung during the  $n^{\text{th}}$  test breath, measured by the measurement system, compares registered volume and pressure in the lung for the  $n^{\text{th}}$  test breath and preceding test breaths, and determines a trend for changes in recruitable volume based on the comparison.